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ABSTRACT

The effective organization and presentation of lecture material is described. Because the average lecture takes 40-50 minutes, it needs to be planned and structured in advance, since the lecturer's instinctive ordering of points may not be the best way for students to receive them. The material should be organized first for the course as a whole and then for each lecture. Thought should be given to where and when there should be pauses, the order of presentation, and the distribution of emphasis. The lecturer must also consider order, content, transitions, and making connections. Making sense to students requires skills in presenting information and expounding ideas--for example, how to make a point and the use of definitions and summaries. The lecturer can use a number of ways to open up a topic: explaining, illustrating, and reinforcing meanings. The actual delivery of the lecture involves setting, atmosphere, and style of address. This style may involve lecture notes, writing on a chalkboard, use of audiovisual equipment, and gesturing. An important part of lecturing is the active two-way communication that occurs with students. Eight suggestions for determining the success of a lecture are offered. (SW)

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TEACHING IN HIGHER EDUCATION SERIES : 1

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Suggestions for the consideration of lecturers and others concerned with teaching in higher education

LECTURECRAFT

HE 016 159

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FOREWORD

This booklet is one of a series produced with the aid of a grant from the University Grants Committee as part of its programme for the development of knowledge about and skill in teaching in higher education. The series is intended to bring together traditional wisdom (not a source to be neglected) research findings when available and relevant, and summaries of what is regarded by the informed as good practice.

The sub-title "Suggestions for the consideration of those concerned ..." echoes that of a famous manual for the guidance of elementary school teachers and this series shares the same purpose. The handbooks may at times be mildly hortatory but they are not meant to be prescriptive. Teaching is something of an art and the aim is to encourage, within sensible limits, something of a personal style. The "rules" (if such they be) are constantly broken by successful teachers but few, if any, get away with breaking all the rules all the time.

Universities and other institutions of higher education have traditionally accepted research and teaching as their principal functions. The systems developed for training in research are well worked out. Till now little has been done for teaching. The initiative taken by the University Grants Committee was widely welcomed and has led to an increasing awareness in higher education generally of the importance of giving to the teaching function the attention it deserves. This series is intended to offer help to those who wish to make an effort to improve their teaching. It is hoped that those who read these pages will, as a result, be better prepared for this important aspect of their daily work.

The authors would be glad to receive reports and illustrative material which readers may wish to send with a view to improving the next edition of these booklets.

C.F. CARTER
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INTRODUCTION

The experienced University teacher knows that there are more ways of teaching a subject than lecturing and that when he does lecture what he says relates to what is being learned elsewhere. He asks questions; "Is lecturing the best way to teach this topic? What kind of lecture shall I give? How will this tie in with tutorials and practicals?" The newly-appointed lecturer will appreciate the need to answer these questions when they are raised but his initial pre-occupation is with performance. So we have introduced the lecture in two separate ways. "The Lecture I: Lecturecraft" is about how to lecture; "The Lecture II: Why Lecture?" is about the use of lectures.

This booklet describes the craft: how a lecturer can organise and present his material as an effective communication. It is an amalgam of the traditional lore of the profession and tips based on the conclusions of educational researchers and theorists. We have described the preparation and presentation of a lecture at some length; what is pertinent and necessary to one lecturer does not always seem so to another. The lecturer's academic purposes, why he uses the lecture,

what lecturing can achieve and examples of what can be done are in "Lecture II, Why Lecture?"

The lecturer's task is to communicate the material of his lecture - a body of ideas or information - to a large number of students. He sets out the material

* connecting the lecture topic to previous lectures or to other parts of the course.
* linking the parts of the lecture to each other.
* making the meaning accessible to the students by every means available; he explains, illustrates, uses analogies.
* he tries to generate response in his audience, to arouse their attention so that listening and looking become an active form of learning.
* he reinforces the important points in every way he can in order to consolidate what is being learned.
* he delivers the lecture with all the oratorical skill he can muster so that what he says is clear and pointed.

We begin by pointing out the need for forward planning of a course of lectures (well recognised as an essential step by most lecturers) and the further need to plan <u>each</u> lecture with some care (though some lecturers consider this to be unnecessary). Detailed planning of a lecture may make the lecturer less fluent, less flexible in his response to the audience. But, since the average lecture takes 40-50 minutes, as a communication it needs to be structured and this cannot always be managed by the lecturer as he goes along. Besides, the lecturer's instinctive ordering of points may not be the

best way for the students to receive them. Part I is "Shaping the material". It has four sections - on planning, structure and form, order and content, and making connections.

Part II: "Making sense" describes quite simply the skills used in presenting information and expounding ideas; how to make a point, for example, and the use of definitions and summaries. We show ways of opening up a topic for the students, explaining, illustrating and reinforcing the meanings the lecturer wishes to make plain to them.

Part III is "Delivering a Lecture". We all of us prepare lecturing notes; these are not notes for lectures but notes from which the lecturer speaks - a rather different matter. How is the performance (for such it is) to go as a live lecture? Changes in the plan of attack often occur as we prepare our lectures. There may be practical arrangements to be made for the use of equipment. Lastly, the lecturer, perhaps with a little help from his friends, checks on his audibility in the room he is to use, on the clearness of his diagrams and the legibility of his chalk-board writing. He looks at the setting and begins to think about how he can put the students at ease and in a responsive mood. Structuring content, devising illustrations, finding examples - these seem tasks that are easily encompassed whereas speaking to an audience can be a disquieting prospect. We have tried to make this relatively unknown territory less intimidating by describing the factors - setting, atmosphere, style of address - that generally favour ease of communication.

"Two-way communication" is the title of Part IV. A

lecture is larger than life; the lecturer may have to play up to it a little in order to maintain rapport with the students.

We suggest some ways of finding out how successful communication has been in Part V: "Tests of success". When the assembly ceases to be 'an audience' and becomes recognisable as 'your students', then we hope you will turn to "The Lecture II: Why Lecture?"

PART I

SHAPING THE MATERIAL

1. PLANNING: PREPARED LECTURE OR OFF-THE-CUFF DISCOURSE?

It is difficult to imagine anyone about to give a course of lectures without having planned what is to go into them. Indeed this is the kind of task that comes naturally to a don and to which many lecturers devote a great deal of time. This is especially the case, of course, when lectures define a course. In selecting and organising material for a course of lectures as a whole the suitability of material and the coherent pattern it will form are at the forefront of the lecturer's mind. He thinks too of the purposes for which he is using the lectures. (The companion, "Why Lecture?" considers what students can be expected to learn from lectures and what the lecture can do best.) Since no one method is normally used to achieve all a university teacher's aims forward planning of a lecture course means thinking too about other learning experiences that will complement the lectures.

The material is organised first for the course as a whole and then seriatim for each lecture. Given 15 lecture periods an experienced lecturer sets one aside to be used both as an introduction and a trial run; he checks on the level, notes responses to the presentation, how the

material fits in and so forth. Another lecture is needed to allow for slack, to elaborate topics that feedback shows to have been incompletely understood and to bring in new material that was originally judged not to be necessary. This leaves 13 lectures.

If there are 13 lectures and 13 chosen topics do not suppose each topic has a lecture. Topic Six may be very important and need two lectures, Topic Three falls between stools, it is introduced in Lecture Two in relation to Topic Two while elaboration of it at the beginning of Lecture Three links both lectures and is a bridge to Topic Four, which takes up the rest of the third lecture.

When students complain that lectures are badly organised and inadequately prepared (this is their commonest complaint)[1] they probably have individual lectures in mind. Must each one be planned beforehand? It is often suggested that some subjects and some topics need more organisation than others. It is argued, too, that detailed planning can be counter-productive, destroying the lecturer's spontaneity, making him less fluent and unresponsive to students. It cannot be doubted that the master of a subject, seeking to give an overview of its central themes, may give a brilliant off-the-cuff lecture. (Without crafty planning can the excitement be sustained through the bread and butter lectures that may follow?) So too may the lecturer personally involved in a controversial field who means to engage the students and to provoke them into thinking about certain issues for themselves. But even the master cannot rely on always finding the <u>mots justes</u> necessary as the corner

pins of a complex argument. A philosopher will not depend on spontaneous 'finding-of-sentences';[2] and the lecturer who shapes his lecture in response to his audience may lose himself when he fails to warm them up and is left with only four cryptic notes on the back of an envelope. Of course experience is a factor here.

It is paradoxical that if experience is needed before one lectures freehand experience may also bring the tedium of repeating courses. A common objection to pre-planned lectures is that they are re-used and grow stale. But at least this year the planner has last year's notes to tell him what he said and he can revise them. Furthermore if he really is convinced of the importance of forward planning he will have kept a running commentary on how the lecture went ("Better bring in more illustrations." And later, "Repeat the principle first? Re-organise this completely?") But if he is not conscientious the freehand lecturer is also inclined to say the same things over and over each year. There is perhaps an irreducible minimum of necessary preparation and notes to be made and quite what this should be may depend less on the area of study than on the complexity of the subject matter of each lecture, the lecturer's intended treatment of it and just what it is he expects the students to learn from it.

2. STRUCTURE AND FORM

Perhaps the most important reason for planning a lecture beforehand is that structured knowledge is both easier to communicate and to comprehend; 40 to 50 minutes of discourse needs breaking up. Some thought must be given

to where and when there should be pauses, to the order of presentation and to the distribution of emphasis. (These points are elaborated in later sections.) This is not simply a matter of presenting a topic in an orderly and connected way - a scholar might rightly suppose that he would normally do this in any case. But breaks need to be planned with the students' attention span in mind and transitions should be organised to maintain interest and to create links within the lecture. The order in which points are instinctively taken may not be the best way to open up a topic for the students.

What shape do lectures take? There is no tidy typology of forms. The way in which a lecture is organised depends mainly on what it is intended to achieve. Obviously the shape of one lecture in a series will depend too on how it relates to what went before and to what follows.

Here, briefly, are two contrasted examples. First an expository lecture designed to inform students; it describes and explains a topic. The lecture begins with a generalised statement that prefigures the way in which the lecture will develop. The lecturer has decided that the natural logic of the structure inherent in the subject will be obvious to the students. There is an A to Z (perhaps it is a sequence of short connected chains of points) and the lecturer has only to decide where to begin and how to group the points. In order to simplify the structure some points are subordinated; a hierarchy is established for the lecture. (This may be an adaptation of the hierarchy to be met in standard descriptions of the subject.) The lecture now falls into three sections:

five minutes introduction and fifteen minutes for each section. On one occasion, in order to relate the lecture more closely to other topics the main points in the lecture are strung on a thematic thread; the sequence is unchanged but the grouping is somewhat different. On another occasion, in order to make the lecture more demanding, a problem is posed at the beginning; in discussing it the lecturer makes an orderly review of the points essential to a description of the topic. He retains the original grouping of points but takes the points in a somewhat different order and connects them through their relation to different aspects of the problem.

On the other hand a lecture, intended to explore and unfold ideas and to provoke questioning of the issues it deals with, may be concentric (examining the ramifications of a central proposition) or have a cluster form (each of several broad themes dominates the lecture at different points though they are closely interwoven). This is the kind of lecture that is more often given off-the-cuff; it is more of the moment. The pattern, emerging only as the lecture develops, achieves, when it is successful, a balance that will not be 'the mixture as before'. A lecture of this kind makes great demands on the audience; can the students retain their grasp of what it is all about? It can go disastrously wrong. (It is like the script one occasionally reads which is different, intriguing and often puzzling. Is it a first or a third? The borderline is a delicate one and the second class does not appear in the decision.) But the lecturer, seeking to avoid the neat outline and orderly lists of points that over-simplify or tidy up a

topic too much, still makes notes. Ideas are to be combined, divergent material is to be brought in, issues are to be opened up.(3) The ingredients are therefore to be assembled and the lecturer thinks about the shape he conceives that this lecture may take. There is more than one way of creating it. He thinks about this beforehand and about what is to be brought in and the transitions he might make without working out the steps in any detail. The lecture may grow from the juxtaposition of students' questions, or of two dissimilar concepts, or a line of speculation. The lecturer forces it into sufficient growth beforehand so that he can prune it to ensure its balanced development; he does not leave it to flower in the heat of the moment.

Freehand lecturers are too much at the mercy of both mood and their audience. A lecture must make sense to the students and if they are to perceive both the purpose and meaning of what is presented to them the material of a lecture does need to be organised.

A further point the scholar may overlook is that while he is confident that his lecture is firmly structured the structure may not be apparent to the students. Students are often confused about what they are doing and why.(4) A lecturer can explain beforehand what he proposes to teach, the direction he will be taking, the way in which he intends to present topics, what the students can do to extend what he will have taught them in their private studying, and the provisions that are made for them to discuss what they are learning and to practise the skills they need to acquire. All this may be part of a general preamble to a course of lectures

given either as a handout or during an introductory talk, but it also needs reinforcing from time to time. In a sense this is largely a matter of helping them to make and keep on making vital connections.

3. ORDER AND CONTENT

The educational researchers and theorists have things to say about order and content.

(i) How much can a lecture contain?

Experience is the only reliable guide to precisely what and how much can be put into a lecture. Experience suggests that new lecturers put in too much. They easily fall victim to the tyranny of content and have exaggerated views of how much information is necessary to understand a topic. There is some evidence that a person may be able to process only 7 ± 2 chunks of information in his mind at any one time.(5) But you may be worried about running out of material - relax. No-one will complain if you finish 10 minutes early provided you do not do this regularly. Keep at the back of your folder a note of a five minute 'fill-up'; on the day you finish early, ask first if there is any point they would like you to go over again. If not, produce your fill-up. "Good. That gives me time to slip in a few words on something I've been hoping to fit in some time." (Pacing, speed of delivery and overrunning are discussed on pages 22-24.)

(ii) How detailed should the information be?

The lecturer may feel that this depends on his purposes. If his lectures define a course, there being no suitable

texts to which students can be referred as the core of the course, then it may be that one of his major purposes is to transmit a detailed body of factual information. (It is important to make your purposes explicit, a large number of students may not see lectures as normally being for the purpose of passing on a mass of information.)[6] But 50% of the students in an NUS survey complained that lectures repeat standard textbooks and others felt strongly that they did not come to university to practise shorthand.[1] There is a limit to the amount of information that can be packed into a lecture and a strong case for using other methods for presenting much of it. (See "Why Lecture?".)

In judging how many facts to include it is always necessary to put oneself in the student's place. How bulky will your lecturing notes be? The accusation that lecturers often expect students to carry in their minds a bulk of examinable information that the lecturer himself does not attempt to remember for a week may not be altogether misplaced.

Apart from the possible limits on what can be absorbed it may be that too much detail can also be counter-productive; it is not only the tangential and irrelevant that befog. It has been claimed that students become accustomed to a blurred focus.[7]

Thus a densely informative lecture may confuse as well as being in part unabsorbed and forgotten. There is some evidence that more is learned from lectures which stress principles than from those presented with a mass of supporting detail. "What learning general or

fundamental principles does is to ensure that memory loss will not mean total loss. That what remains will permit us to reconstruct the details when needed".(8)

This should not lead to extremes. Spareness may be attractive, both revealing articulation and permitting the freer co-ordinated functioning of a body, but skeletal lectures may have an arid rattle. And where aphorisms, one might venture, are appetising to the well-stocked mind the more substantial nourishment of circumstantial narrative may be what others need. It is essential to assess the state of preparedness, the state of knowledge and the level of understanding of students before one begins.

(iii) <u>There is no best order in which to present information</u>

Sometimes a lecturer's instinctive ordering of points, reflecting the logic of his subject, is right, he begins at the sensible beginning. But sometimes a lecture begins more effectively at the point most likely to be meaningful to the students. Thus an introductory lecture on photosynthesis might begin with phytochrome, and the familiar energy conversion (green plants in sunlight), rather than following the patterns of structure - sequence of reactions - energy relationships or primitive photosynthetic organisms - increasing complexity - higher plants.

There are some useful questions a lecturer can ask himself when looking for an entry point for topics that may initially seem dull or difficult to the students. For example, what were the broad general questions

people were asking that prompted inquiry into this subject in the first place? They may be of no more than historical interest; they may be of continuing general interest. What points in earlier lectures did the students find interesting? Perhaps this one can begin with a direct connection to some such point. What importance will the students attach to this topic later? What have previous classes made of it? Perhaps the lecture can begin with what seems significant to the students and gradually be brought round to the track it is intended to follow.

It is often difficult to decide whether general statements should come first or last in a lecture. Educational theorists offer recommendations; the choice again depends on the lecturer's purposes. Is the lecture a descriptive exposition or to show how laws and concepts are derived?

When presenting a mass of detailed information it is sensible to begin with a broad statement of the order in which the topics will be taken, i.e. to indicate the whole before dealing with the parts. Another tactic may be to begin with a scaffolding of broad generalisations or conceptions to serve as 'advance organisers' before going on to less general sub-concepts which can serve as strong points to which the detail can be attached.(9) The scaffolding should cover a wide field of knowledge, not just one lecture. It can then usefully be referred to in subsequent lectures. This principle clearly applies to course construction as a whole. An advance organiser for a group of lectures can be described in the first lecture, referred to at the beginning of each succeeding lecture and the sub-

concept that is to be elaborated in each lecture then serves in turn to organise that lecture by relating it to the whole. The scaffolding would be of very general and inclusive ideas, explicitly inter-connected and carefully related to students' prior knowledge. Its use may improve students' ability to keep later material in mental order.

There is no proof that 'advance organisers' are effective; attempts to evaluate them in real teaching situations have not produced the kind of evidence that would determine whether or not they do make complex material easier to learn. However in theory there is good reason, in the minds of some experienced educationists, to suppose that they do.(10) An 'advance organiser' is not a simple overview of a subject that could equally well be a later review; it does not make its effect by singling out headings or key concepts in advance. An 'advance organiser' is a deliberate attempt to create a coherent organising framework of ideas at a higher level of generalisation or abstraction. It creates a context within which later ideas can be placed; it must come first.(11)

Where there is a distinct change of emphasis or of underlying ideas between sections of a lecture then advance organisers may not be as useful as a review between the sections. Thus at a point where emphasis changes, stop. (This is particularly important where ideas may conflict.) Then explain the switch and show how the new emphasis may affect the way in which the first section of the lecture may now be perceived. Set the conflicting ideas in a wider perspective, and note

that where contradictory information is presented by one person at one time there is a tendency for those items presented first to dominate the impression received.[12] Thus when two topics of conflicting emphasis are presented in a lecture and they are of equal significance, introduce the less familiar material first in order to maintain balance.[13] Here is an example of an occasion where one needs to take particular care over showing clearly how each topic relates to the general structure of what is being studied.

When teaching problem-solving strategies, laws and concepts, the lecturer may be advised to begin with the detailed instances.[14] Thus a problem is approached by setting out specific data, ordering them so that it is possible to manipulate them in various ways, and bringing them step by step through procedures which allow inferences to be made that lead to the expression of increasingly generalised principles. Similarly the establishment of a concept begins with the statement of subsidiary propositions and the audience is led through an exploration of their relationships to a final general and inclusive statement. Introduce this kind of lecture by asking students to look for the pattern emerging and to try and identify the general principle which will not be presented to them until the end of the lecture. Again one would be careful to relate starting points to students' prior knowledge and to tell them what one is about. As confidence develops the lecturer can work out variations on the basic "tell them what you are going to tell them, tell them, then tell them what you have told them" for himself.

If you are interested in this kind of analysis of material you should read Pasks's[15] account of how once complex concepts have been broken down into hierarchies of simpler ideas it becomes possible to construct a computer-aided game for learning them. The student explores connections in his own way; many paths are open to him as is not the case with programmed instruction. He can begin with what interests him and by following logical connections arrive at a point where mastery of a concept includes a complete understanding of how it is built up.

A final point is that the main proposition or the most important statement in your lecture should come either at the end or the beginning of the lecture[16] - perhaps 5 - 10 minutes into the lecture is the most favoured spot - when the students will have settled down and their interest is still high.

4. MAKING CONNECTIONS

A lecture must be placed in relation to other lectures and other parts of a course. The points in each separate lecture must similarly be placed in relation to each other and to the lecture as a whole. Here is a rough guide to good practice.

Before lectures are given

Post synopses of lecture courses on departmental notice boards.

Hand out a course guide or have an introductory meeting.

When giving a lecture

a) State the way in which you have organised the lecture:
   - give a handout
   - draw a flowchart on the board
   - make a verbal sketch, at the beginning, of the scope and direction of what you intend to say
   - if you wish students to draw out the central points for themselves begin by saying, "I shall not show where this is leading because I feel you will gain more by working it out for yourselves as we go along."

b) Show the relevance to the syllabus and to the rest of the course of what you are currently dealing with:
   - remark on all connections whether or not they seem obvious
   - link new material to what has already been learned. If you recapitulate in order to provide links tell the students you are doing so.

c) Relate each point of emphasis to the structure:
   - It is not always self-evident that you are moving on to another aspect. One way to do this is to 'flag' each new point by putting a number on a heading on the black-board as you go along (logically ordered this will build up a summary of the lecture).(17)

d) Take stock from time to time to set points in their context: "Let us see where we've got to."
   - Summarise at the end, pointing to the way in which the next lecture will develop the theme.

e) Leave some loose ends:

- as purchase for students' thoughts
- as outward pointers to wider implications, or other fields, that students can take up independently
- as hooks to catch students' interest in later specialist courses.

PART II
MAKING SENSE

The lecturer's task is to set out the information and ideas he presents in a plain and immediately comprehensible way. If he has an argument or thesis to make he wishes this to be clear to the students; the meaning of what he presents must be accessible to them, the argument persuasive as well as clear. And the way to do this is not necessarily straightforward exposition.

Having selected his lecture material and shaped it into a coherent pattern, that offers what he considers to be the best possible approach to the topic for his students, the lecturer has various ways of presenting it to them. He uses spoken and written words; both his own and the recorded voices of others, handouts he has written to prepare the ground for the lecture or to supplement it and quotations from other people's works. He uses pictures and diagrams; film clips, slides, overhead projector transparencies, prepared and ad hoc drawings, charts, graphs and tables. Sometimes he uses concrete objects when students can best understand the nature of something by tactile perception. Sometimes he works alone and sometimes a lecture is a double act or a group performance.

By these means the lecturer seeks to vary the pace,

pitch and emphasis of his presentation both in order to make the lecture easier to understand and assimilate and in order to arouse the students' interest and keep their attention so that looking and listening become active forms of learning. He makes sure they remain conscious of the structure so that they can see where he is leading them or see points falling into place retrospectively. And he uses examples, illustrations and analogies to entertain and instruct them and to build bridges between their understanding and the subject of the lecture, and between one part of the lecture and another.

If this seems a tall order then bear in mind the common sense point that no-one in his right mind would begin lecturing by putting on a complex multi-media lecture. The new lecturer begins with what is simplest; planning only one or two breaks that allow him to catch his breath, bring his voice down an octave, and keep an eye on the time.

In this part of the booklet we first set out the substance of the lecture:

- exposition
- explanation
- how to make a point
- pacing and emphasis.

Next comes not just clarification of the points made but illumination of their meaning:

- the use of analogy
- choice of examples
- illustration
- the use of other media.

The third topic is rounding it off and tying it together - reinforcement techniques, more about transitions and connections, the value of a final summary. Many points here in Part II are relevant to the section in Part III concerned with how to generate response in the audience; lecturing skills do not fall into neat categories. The points that are made, the recommendations we urge you to consider, are offered without qualification. These are not prescriptions (there is no one way of teaching nor any universally accepted best practice) but point by point we offer you lecturing techniques and strategies that have been found effective or that there are grounds for supposing may be effective.

1. EXPOUNDING AND EXPLAINING

These are techniques in which scholars are well-versed. However they are accustomed to addressing their fellows and masters, now the task in hand is not only to instruct novices and apprentices but to inform the interested passer-by; not all students intend to specialise in your subject. The first decision to make, then, is where to pitch the lecture. It must be obvious that this should be at the level of understanding of the majority of the students, not of the high-flyers nor of the slow learners. Provision can be made for the first group to extend their study of a subject independently and for the latter group to have more work in small groups, or access to learning programmes, or guided reading that concentrates on giving a grounding in basic principles, or surveys topics at a more general level. They must, however, be identified and the earlier you can do this the better. The level of understanding of the majority of the class can be

ascertained by making an assessment of the prior knowledge, experience and range of abilities of the class. This can be done by talking to the students, by using questionnaires or tests or by seeking the advice of a more experienced teacher in the department.

A scholar practises economy of statement: he gives information and expresses his views succinctly. But a teacher may make points over and over again, re-phrasing them, putting them in another form, reiterating the reasons for their importance. In a lecture the points of substance should stand out; decide beforehand which ones must be phrased in an exact, even formal, fashion. A scientific principle may be inseparable from its formulation and key points in a lecture that explores ideas - political, religious or historical thought, for example - may demand memorable phrasing. These essential statements will naturally be prepared beforehand and spoken with deliberation.

Different ways of saying things

A lecturer makes great use of vocal stress and different speech forms to differentiate between, say, exposition and explanation, knowledge and opinion, statement of theory and supporting evidence, fact and speculation. The carefully phrased key statements stand out free of all conversational clutter such as "Right then", "And anyway". Plain exposition and factual information are given in plain functional language, though probably relaxed in tone, and cemented by conversational expressions. Comment, illustrations and remarks intended to draw in the audience will be more colourful and more informal. An exception would be examples essential to the understanding

of a general statement, these must be true examples free from metaphorical associations which may complicate the meaning[18] and should be presented in the same plain way as expository statements.

Here are two examples.[19] A lecturer who believes in establishing immediate rapport with his audience begins by addressing them directly with a few conversational remarks - "Can everyone hear me?" "What a scorcher of a day!" and he introduces his themes in the same informal tone. The students are invited to share the usual joke about his subject, an anecdote becomes an illustration of what will be a main theme and leads into the lecture proper. Now he re-pitches his voice to define his first topic clearly and deliberately. Another lecturer is an economist, her lecture deals with material of great complexity and she adapts her voice to the content. Main points are made in measured, even tones and formal language. She is professionally didactic, as it were, her material is carefully thought out and as carefully presented. But explanatory comment follows in conversational style: "Its like this", "Do you see?"

The variation of tone and style of presentation creates its own rhythm and part of the pattern of a lecture may be the ebb and flow of the pressure of information as each main point is introduced. The lecturer builds up to the main point, perhaps isolates it by a pause before he delivers it and pauses again afterwards to let it sink in. The pressure of information is then relaxed. But the lecturer also uses changes of vocal stress and special forms of speech to punctuate his lecture.

He makes great use of pauses. Thus he both pauses and changes his tone of voice as he moves from one topic to another - from one paragraph of the lecture to another - he may also cough, move about or turn over his notes. He almost certainly makes use of verbal markers such as "Now", "Moving on then", "Next", "That's all I have time to say about", "So, let me start by", or "I want to go on to". These phrases are not redundant. A linguist[2] notes that his usual pattern is marker - preamble - TOPIC - ending marker - new topic marker - preamble - TOPIC etc. To take an analogy from photography this is a frame-setting device.

Emphasis

The words you use and the way you say them can both pick out and emphasise points. Emphasis is needed and must be distributed with care not just to bring out the structural pattern of the lecture but to make sense of it. Everything in a lecture is not of equal weight; it makes nonsense of it to present it as though every point and every example were of equal importance. At one extreme every point is elaborated and commented upon, every point is made the subject of neat observations and supported by vivid illustrations - the points merge in a blur of sameness. At the other extreme those whom Kapp[18] describes as "bred in a tradition of austere objectivity" may present their lecture so unemphatically that they completely fail to bring out the sense of it.

There are of course other emphasising techniques to use, such as repetition. Which key phrases will be repeated and how often, which points will be recapitulated towards the end of each phase of the lecture and when summing up

at the end? Recapitulation is most effective when it takes the form of a brief and pithy restatement of linked key points rather than a general precis. Major statements can also be emphasised by presentation in another form and by comment, demonstration and illustration. These techniques overlap each other. Thus illustration can also involve presentation in another form and it is also a neat way of making connections and of recapitulating. Try exploring these possibilities with media services or educational technology units if you have access to them.

Presentation in another form clearly adds new dimensions to students' learning experiences. Will some of your material gain from visual presentation, without comment, in ways that words cannot compass? Film can give a form of experiential learning; television can change the focus of a lecture by bringing up fine detail or showing patterns of movement. Writing things up on the blackboard or overhead projector as you say them is an emphasising technique. If you are giving a problem-centred lecture, study questions can be given out ahead of time that present particular issues from another angle, and this will emphasise the point when it comes up and may also serve to focus anticipatory interest.

Pacing

Obviously a lecture is planned to fit into the time available. With experience a lecturer is able to gear the rhythm of his presentation to his lecture-plan and at the natural breaks he instinctively checks on the time. The new lecturer may find it necessary to mark his lecture notes with reminders to make time checks. Clearly the

new lecturer will also have to make some check on his speed of delivery. It does not matter if you get through your material too quickly provided you have supplied yourself with one or two supplementary points, possibly those arising from seminar discussions, to use as fillers. The opposite occurrence - running out of time - is more distressing to you and to your students. Adhere strictly to timetable conventions; if lectures cease at five minutes before the hour then stop at that time. Students will not learn effectively if they see you are rushed and if they are concerned about getting to their next lecture (which is possibly in a room 10 minutes' walk away!) Check your progress five minutes before closing time and adjust if you can, perhaps by leaving out an illustration or two. But if you cannot manage to accommodate your material to the clock then cut your losses. "I'm sorry but I shall not be able to complete this topic today and it is too important to skimp. I've dealt with three of the identifying characteristics of this syndrome. There remains the fourth, which is x, and I will deal with that next time." Next time begins, of course, with a re-capitulation of first the problem then the three characteristics already described. Having got into (and successfully out of) this hole, the lecturer clearly has the duty of re-organising and re-scheduling the remaining material. There <u>is</u> a limit to what can effectively be done in a lecture period.

Roughly speaking, a straight talk of 50 minutes, allowing for pauses, has been estimated to take 5,000 words, about 110 per minute, which is 5 pages of single space type-script on quarto paper.[20] The critical speed for comprehension of not too difficult material may be as

high as 300 words per minute. But for individual students there may be interference with assimilation at lower speeds than this.[21]

Any lecturer intending to talk at anywhere near 300 words per minute (or finding out that he does) should use the active mood and very short sentences, leaving pauses at the ends of sentences; these become disproportionately shortened as speed increases. Going too fast for one's powers of utterance may result in not sounding terminal consonants and not completing the proper grammatical forms of sentences. The new lecturer may find it easier to pace himself if he begins with a simple sectionalised expository lecture that can be roughly timed. Equally he can use discussion periods alternating with short lecturing periods to diminish any tendency to gallop. Some examples of how to incorporate periods of activity that provide an alternative to the lecturer speaking all the time are given in "Why Lecture?"

We can now summarise this section by describing <u>how to make a point</u>. The strategy set out here is based on the findings of micro-teaching research and the experience of those who work on programmed instruction. We have adapted Bligh's[17] formulation.

(1) State the point concisely. The key phrases will have been prepared.
(2) Reinforce it simultaneously, if this is possible and appropriate, by visual presentation. At least write it up on the board as part of a summary build-up.
(3) Say it another way. Everyone will not understand things in the same terms or the same way.

(4) Elaborate the point. Give more detail, evidence and explanations, give illustrations and relate it to other subjects by examples and applications. Always make illustrations and examples brief, familiar and concrete wherever possible.

(5) Relate the point to other parts of the lecture and to other concepts. New concepts must be built up in terms of familiar ones and the connections and differences between concepts should always be emphasised. Make explaining links.
(Ideas are associated in proportion to the number of times they are referred to and the number of ways they are linked together.)

(6) Look for feedback.

(7) Recapitulate - examples, evidence, explanation as seems necessary.

(8) Restate the point.

2. SOME LIGHT ON THE SUBJECT

Ordinary students cannot absorb the material of a 50 minute discourse. Even when they are taking notes they will not make sense of what they hear if the lecture is densely informative and delivered at an even pace in the careful language of the scholar. (Research evidence to support this view is cited in "Why Lecture?".) So, as we have seen, the lecturer breaks the lecture up into recognisable 'paragraphs' and varies pace, tone, language and emphasis to create light and shade in his discourse. He also makes concessions in the way he explains his subject for if the meaning is to be accessible to the students they must have some purchase for their thoughts, some way of looking at what is presented in the light of

their own experiences, and some connection to what they already know. If the lecturer wishes them to see what his subject is about he must throw some light on it.

Language

Obviously the stated points must be clear to start with - unfamiliar vocabulary may obscure them. There is no point in using terms that have exact and specific meanings in the context of a particular subject unless these meanings are explained to the students. Defining one's terms becomes doubly important when lecturing to heterogeneous classes. When handouts are used to supplement a lecture definitions should always be included.

Similarly not all students will see how one point leads to another. Apparently redundant phrases are used as markers to punctuate a lecture; they can also be used to show how a lecturer arrives at a point and what it does and does not signify. Thus:

"I am jumping a gap here. Most historians ..."
"Let me say in passing ..."
"In my own view ..."
"Simple deduction leads to ..."
"This expression derives from ..."
"Using the language of ..."
"I am using this to show ..."
"Quite unexpectedly ..."

In other words say what you are doing and why whenever you suspect that students may have difficulty following a lecture.

A lecturer uses apparently redundant conversational phrases to give students time to assimilate what is

being said; these can also bring topics closer to their everyday experience. The rough edges and loose ends of colloquial speech structures may provoke active, though covert, responses in the listener. In fact the language of many successful lecturers is a sort of heightened common speech, rather than formal discourse, avoiding the prolixity of casual conversation but avoiding too the spareness of a learned article. Most lecturers are more relaxed in their delivery when explaining points. This is often when their notes are most sketchy and lecturers can be shocked by recordings of their lectures that show up a plethora of syntactical blunders; this is a price that may be paid for fluency and a healthy preoccupation with the audience. A polished talk is not necessarily the most effective - as that masterly lecturer Bragg points out.(22)

In full flight, however, beware of rhetoric. Rhetoric, stock illustrations, your own way of putting it, a habit of always embracing concepts within a particular framework of subordinating headings, all these can fossilise a teaching situation.(23) Be warned too against using 'foreign' language, imported idioms (ballpark estimates) or alien pronounciations (Köln for Cologne), for distractions are relished. Do you wish the students to spend the next few minutes trying it out under their breath?

Comparisons and illustrations

These are used in explanations to illuminate the meaning of a point. Sometimes a powerful metaphor can convey the whole essence of a concept and the resonance it sets up may enrich understanding. More often illustrations

and analogies are reductive, simplifying concepts to bring them within the students' grasp. Thus a mathematician[2] lecturing on topological vector spaces and recognising that it is difficult for students to think in n-dimensions runs a 2-dimensional example (which he develops as a diagram in coloured chalks) in parallel with his proof so that each line can be followed in a concrete case.

But though it is often necessary to simplify in the interests of comprehensibility (science students sometimes complain that they could do with more examples and analogies)[24] care may have to be taken to increase the complexity of illustrations when building up more elaborate or difficult ideas. A philosophy lecturer[2] making the distinction between teleological and purposive explanations of human action began by using simple illustrative instances of both followed by a straightforward example that pointed up the differences. In the second part of his lecture, which explored the issues in greater depth, an earlier example was used again and a less straightforward one was introduced. This new example also came from a broader context. The lecturer was concerned both that the complex nature of the subject should be properly represented in the examples and that the students should be prevented from taking too narrowly academic a view of the issues. Variants of these examples were now used to explore the lecturer's own propositions.

There are, too, occasions when it may be necessary to give what may be a superficial, commonsense explanation for the conclusions a lecturer reaches; this is a matter of bridging credibility gaps. Kapp[18] calls these explanations alternative bridges: the logical route is

followed and explained as a matter of course but the alternative bridge (carefully kept apart from the proper proof) is more familiar, or at least is built of familiar material. The conclusions are made easier to accept. As an example Kapp takes the proof of how when an electric transmission line is very long the current flowing into it at the sending end is the same whether the receiving end is short circuited or open circuited. Students understand the mathematical proof easily but remain puzzled because they would have expected from previous knowledge of such matters that there would be a destructive rush of current flowing into a short circuited line and none into the open circuited line. A second bridge - "The charging current in a long line is great enough to swamp the effect of any current due to a short circuit" - relieves them.

How to choose examples

* Examples must be apposite but those that first spring to a scholar's mind may be too recondite.
* They must be familiar to the students if they are to bring the students close to the subject.
* They can be entertaining and should be interesting.
* When special cases are used to convey general truths a range of examples may be necessary.
* One can keep adding further elements to examples to parallel the exposition of increasingly complex abstract ideas.
* The working of problems that demonstrate the application of principles can similarly be extended to include less and less familiar cases.
* An example that is an essential part of setting out a principle must be true and limited to the

expression of that principle.

* Examples can carry overtones; by explicit or implicit references to associated ideas they may
  - enrich understanding
  - widen contexts
  - link different parts of a lecture
  - recall earlier lectures
  - create interest in developments of the subject not covered in the lecture.

The use of other media

Learning through the symbolism of language and numbers is more meaningful when there has been prior direct and concrete learning through experience.(8) This means one should always try to draw examples and illustrations from the particularity of students' prior learning and to relate them to their activities and concerns. Projects, role-playing, field-work, industrial experience, and laboratory classes provide direct 'learning by discovery'. This can be a starting point from which students go on to formulate a first level of general principles themselves before they are formally elaborated in lectures. Other media can substitute vicariously for direct experience.

Other media can provide experiential learning as an integral part of the lecture, perhaps presenting a topic entirely in visual terms - a counterweight to the heavy verbal emphasis of most teaching in higher education - or can otherwise be used for illustration, emphasis or variety of stimulus. They break the verbal flow, sharpen the focus of attention, open out or narrow the focus of the lecture, help to make abstract concepts

concrete. So many people start thinking of a lecture in terms of words and then seek ways of adding other things to it. For some topics it might be better to start with, say, the pictures, and add the words later. But it should always be remembered that visual material may only be grasped quickly by those who are already familiar with the form in which it is presented; not everyone understands graphs or orders of magnification at a glance.

Research into the comparative effectiveness of other media as instructional methods provides the expected inconclusive results. Where examinations commonly assess verbal learning other media are unlikely to affect results. But in the long term they may have a durable impact in terms of arousing and sustaining interest in a subject by the way they make concepts and ideas more meaningful. Comprehension may become wider, deeper and more lasting.(25)

The students will not be interested in what equipment you use but in the clarity of sound or pictures and the relevance of what is shown. The first point emphasises that technical or administrative difficulties should never obtrude on either lecturer's or students' attention. You must be thoroughly familiar with any 'machinery' you use. If you cannot be sure that it is always available, operational and that you can control it, then avoid it. Excellent guides and manuals are available and your media services or educational technology section will be glad to instruct you.

The second point also demands thought and a great deal of work. Imagination is needed to translate material

into a visual form but this is not entirely a matter of intuition. Much can be learned, and again the university's specialist services will help you to produce your own material. Try to develop a 'thinking eye'. Visual presentation may distort or misinform if it is not done well. Ask someone who has had no part in preparing it, perhaps a senior colleague, to look at your visual material.

3. LINKING IT UP AND ROUNDING IT OFF

Lectures often end with a recapitulation. So do some chapters and we are now going to round off our treatment of this topic by recapitulating how a lecturer lays out the steps of his argument, co-ordinating them and emphasising the essential points so as to create a coherent and hopefully memorable pattern. The pattern is not only aural and verbal. Different techniques and means are used as and when they seem to offer the promise of more effective student learning. The lecture does not, however, stand on its own; it is part of a sequence of similar occasions.

As the lecturer rounds off his presentation he is, therefore, conscious of the larger context within which this lecture occurs. He will, of course, have "laid the trail" for this earlier but the conclusion plays a particular part in linking the lecture now being brought to completion to the whole series. We conclude this section of our treatment of the lecture by looking first at the linking techniques used throughout the lecture and then at the rounding off which completes the presentation.

Linking techniques

First there are the outward connections to be made.

* Introduce the lecture, linking it to last week, and round it off, linking it to next week.
* Relate the lecture topics to the syllabus and to what is taught elsewhere by other methods.
* Relate yourself to the subject, making clear your personal position in relation to the issues raised.
* Relate the subject to the students by pitching the lecture at the right level and by using familiar material to illustrate and explain points.

And then there are the inner connections.

* Make the structure of the lecture clear; tell the students what you are going to say.
* Use verbal markers to punctuate and as hooks and eyes.
* Summarise periodically; tell them what you have told them.
* Refer back whenever there are possible cross-connections with points made earlier.
* Re-use examples.
* Draw it all together at the end.

There are too all the stylistic devices an essayist might use such as extended metaphors, taking up a point more than once to deal with it at different levels, beginning and ending with a paradox. Thus a lecture on socialism (19) in a politics course begins by setting out the paradox that everyone knows what socialism means but there is no generally accepted definition of it. This lecture

ends with a second paradox: socialism is best defined by the individual's own position in relation to a capitalist society but the argument socialism versus capitalism is out of date.

The use made of such devices is naturally a matter of personal style and it will depend too on how general a course the lecturer is teaching. Colourful language may be more appropriate to introductory lectures where receptivity must be created and where the range of students' interests, abilities and experience may be great; they may need more aids to learning. Thus undergraduates are usually new to Czechoslovakian Studies; one professor liked to begin, like a graphic artist, with a few bold strokes. He chose to try for a light touch, using far-fetched analogies, stories, startling and amusing quotations, even nursery rhymes.(2) It is the feel of the subject, the inherent paradoxes, the essence of what he means to teach that the lecturer tries to convey.

Are the oral poets sound guides to good lecturing? Chaucer's "Parlement of Foules" is specially recommended for analysis!(26) Certainly an oral poet may be a past master in the use of devices like repetition and variation, in establishing continuity and linking one part with another. He understands the need to vary the density and intensity of narrative, the value of common speech forms and of more solemn language. He knows how to dwell at length on one topic while maintaining another as the centre of interest.

Rounding off

First the lecturer re-emphasises the significant points

he has made, recapitulating, re-stating them perhaps in plain terms, perhaps in terms of the telling instances he used to link them together. They can be reinforced by summarising but also by other means.

* Breaks for discussion during the lecture or at the end. If there is to be discussion at the end set time apart for this and make it quite explicit that this time will be used anyway - there is a final important point to be made before the lecture ends - otherwise the lecture may die on you as the students begin to think of coffee.
* Discussion in related seminars.
* A quick quiz.
* Supplementary tests that are handed out at the end of the lecture.
* Handouts.

A pithy re-statement of linked key points may be a more effective summary than a general precis, but rounding off a lecture often involves looking at it again as a whole on a different level of generalisation - this was the point of the lecture, at least this is what it was intended to be, this is why such and such points were included and others were left out, what sort of pattern has in fact emerged? It may not have developed according to plan; audience response may have led to a re-distribution of emphasis. How does it look to the students do you suppose? How, finally, is the subject of the lecture to be summed up? What pointers have emerged that will determine how related topics are dealt with later in the course? As the lecturer looks back at the lecture he has just given he looks forward to those

that are to follow. Sometimes he comes quietly to a close, sometimes he ends on a rising note. However he does it the students should realise that the end has come. Ideally the parting shot should be one which "fixes" the topic just covered and opens up the one which is to follow.

If there is an essential piece of student preparation for next week (a video-tape to be seen in the viewing room, a text to be brought, some data to be collected) this too must be put firmly into the programme as the lecture comes to an end. If you have used the board extensively and you know that another lecturer is to follow you immediately, thus preventing the porter from carrying out his usual tasks, it is courteous to clean the chalkboard. That simple operation should be carried out by means of downward strokes (designed to deposit the chalk dust on the floor) rather than by means of the more natural side-to-side strokes designed to fill the air (and the lungs) with irritants.

PART III

DELIVERING A LECTURE

1. PREPARATION

Many experienced lecturers habitually do the main work of organising and thinking out their lectures, sorting out material, examples and so forth as a major exercise for the whole course some considerable time before they teach it. A short time beforehand they then make the preparations we have in mind now. First one asks whether what has been got down so far looks as if it will be apt for its purpose. Then one must ask how life is to be given to this outline.

Your final preparation may be seen as two-pronged. There is first the practical business of getting lecturing notes ready, and of attending to and practising technical matters; there is too the imaginative work of rehearsing in your mind all that is involved in the presentation. This is a question of imagining the lecture, in its particular setting, with its particular audience, and on a particular occasion. One tries to see how it will go, the pattern of emphasis, the pauses, the questions, the recapitulations, the visual impact and so forth. Are there changes to make? Are all the examples and illustrations as brief and as concrete as possible?

Secondly the content has to be re-examined. It may be necessary to modify it because of how the course has gone so far. There may be recent developments, some excitement you may wish to quote that marvellously brings out the sense of what you hope to convey. This is where you may bring in that sense of immediacy. One philosopher always re-reads primary sources at this stage in order to refresh his mind. Do your examples and illustrations draw on what you now know of the students' experience?

Clues to students' interests can be picked up in conversation. Pointers can also come from noting the kind of questions they ask, the questions they choose to answer in tests, the class attendance for particular activities and which books are heavily used.

Practical business

It is always as well to make sure there are no difficulties in the matter of arrangements, times, rooms available and possible previous occupants who are likely to leave distractions such as unwanted equipment. Check lighting and arrangements for the use of equipment. Porters and non-teaching staff like to be consulted at times that leave them room to plan their work in advance.

Whatever you wish to use in the way of equipment must be checked ahead of time. All handouts, booklists, etc., should have been part of your earliest preparations. They certainly are unlikely to appear as late embellishments. It may not be possible to supply them if there has been insufficient notice. The practical problems of duplicating and distributing material for large

classes are inimical to such impulses.

Making lecturing notes

The lecture has a structure: notes embody it. A common habit is to use looseleaf files with a separate section for each main point. The subsidiary points, questions, etc. will each be given a page or card. Practical experience suggests that upright rectangular pages are easiest to read and that where there are more than 4 - 5 to a section they should be linked together.[17] Always number the pages if only because one day you will remove them from your folder and drop them on the floor.

Notes must be written in larger-than-life script: normal typescript is probably too small. Remember that the smaller the script the further down your head will go and your students will get a fine view of the top of your head. Too many lecterns are at the level of the navel, can you raise yours to chest height?

How much do you write on the cards? It is recommended that you should put the heading of the point, perhaps at the left hand side, in larger script, and add your previously prepared key phrases. If there is to be a logical development of the point this could be inset and run down the left hand side. On the right there is then space to list all the examples, illustrations, applications, etc., that relate to it. Keep thinking about your presentation and the need for pauses. It may help you to make a rough timetable or to write reminders in boxes at the bottom of the card. "Switch off television". "Q(uestion) here". (We have borrowed from Bligh[17] again here; he should be consulted for

more, and more detailed, recommendations of this kind.)

Only the introduction should be written out, and then only if you are a beginner. It is necessary to make this brief and to the point for it is so easy to overspend time at the beginning and have too little for the substance of your lecture. You may have a stunning, evocative sentence in mind but do not omit to sketch in the structure of the lecture and to place it in context.

When preparation has been thorough and the purpose and pattern of the lecture are bedded in your mind then lecturing from such brief, carefully laid out notes is much easier than you think and is much the liveliest way of doing it. The fuller your notes the more likely you are to end up reading a paper. Finally, just before you give the lecture, go through your notes giving thought to phraseology and transitions and the timing of each section.

2. PRESENTATION

A lecture's virtues are that it is a prepared and personal presentation. Phrasing and tone of voice, the careful choice of words for key sentences, the pointing of words by simultaneous illustration in another medium, the subtlety and variety of emphasis that can be given by the human voice, all these are the lecturer's tools. In the hands of craftsmen as well as of artists they make a lecture a structured, spacious and orderly exposition but they also allow the lecturer to point to widening connections and to communicate more than the bare sense of the words he uses.

This is all very well but how do you go about it? Few lecturers feel quite at ease when they first speak to a large group. Obviously the setting is larger than life so voice, gesture, movement, writing, need amplification. The lecture as a performance is discussed in Part IV in relation to the need to establish some kind of rapport with the audience. Not all lecturers wish to go into such detail so here are a few essential practical points about presentation.

Writing on a chalkboard

This needs practising. Check visibility from the back row; beginners tend to write too small and develop a diagonal slant. If you are writing across a board move across as you write. Experiment with two pieces of chalk in one grip (fine for arteries, tubes and contours!) Old hands have been known to come in beforehand and lightly draw in pencil (or purple chalk if the board is black) the outline of a complicated or difficult drawing (possibly from a projected slide). The pencil cannot be seen by the students and at the correct moment the diagram can be constructed, the chalk following the pencil marks visible only to the artist. The complete drawing is not made beforehand because students may learn from watching how a diagram is built up.

Overhead projectors

These allow you to write normally. But do not expect to use one to display running notes or the building up of a summary if you also mean to use prepared overlays for illustrations. And if you are going to build up a complex sequence of diagrams give the students a handout of the first and last ones!

One has to speak up

One has to speak more distinctly than usual. Words at the end of sentences need special emphasis for they often get lost. Try pitching your voice to the corners of the room - practise this. Listen to yourself. Pitch rises with fatigue and stress, stop for a moment and begin again on a lower note. It is all very well to be disarming when asked to speak up ("I am so sorry, I didn't realise I could be overheard") but accept that if you are speaking you might as well be heard. So keep your head up, your mouth visible and do not address yourself to your notes or the chalkboard. Speak to the students. If there is no lectern put your notes on an upturned waste bin or any other substitute; do not work off notes positioned at table height. If you speak too fast you will interfere with your own powers of utterance as well as their understanding. Consider the value of the pause. Take time to check your notes before moving on, without being silent so long that you cause uneasiness.

Gestures?

Ah, well. Everything visible detracts from, where it is not use consciously to reinforce, the intended impression. Gestures can be used positively (many a point is aptly illustrated by hand or whatever is to hand as Faraday used to demonstrate[22] and Bronowski[27] has done to calculated effect in recent years) but all visual illustrations need careful editing. If you wish to focus attention on your dress, manners, movements, you will freely express yourself in these matters. If not, get someone to edit you! All the rules can be broken, but not all at the same time.

Lecturers do balance on the backs of chairs, poke fingers in their ears, jig about, juggle with chalk, sketch things in the air, mutter, sway hypnotically from foot to foot, put their glasses on and off (heard of bifocals?) lecture with their heads in their hands throughout, jingle their change, fall of the platform, etc. etc. Their fame liveth for evermore in anecdote.

At the other extreme are those so uniform of tone and unobtrusive of presence as to be almost invisible. If, in emulation, you hope to lull the students into minimal responsiveness, keep your voice absolutely level. It can be just as disturbing suddenly to lower it as it is to raise it. Further contributions to diminishing the threat of attentive students would be to make sure the room is not aired before you use it, lecture in the late afternoon and ensure that seating prevents any face to face arrangements.

3. THE SETTING: PUTTING THE STUDENTS AT EASE

The most important part of the setting is the atmosphere you establish. We shall come to that. The form and style of presentation of your lecture will also influence its reception. As teachers we often teach as we were taught. The university lecturer is the successful product of a competitive educational system. Whatever your personal reaction against that upbringing may be it is quite possible that you teach in a manner that reflects the harsher aspects of that system. The intention to be mild and non-threatening is not enough on its own. You may have to be self-critical as well as self-analytical. Here are some pointers to the

stylistic habits that educationists frown on.

If a lecture is presented as the establishment of 'truths', if information is transmitted with an emphasis on the immutability of the 'facts', then in a sense this is dogma and a competitive atmosphere is created. If the language used, the references given, the illustrations and examples in no way relate to students' concerns and their prior knowledge and experience then this is both competitive and threatening. This is the 'blinding with science' approach. Alienation is created by excessive use of the first person singular coupled with the absence of remarks that invite joint consideration of points made. But the effect is otherwise when you identify where personal judgments have been made. Phrases like "The way I see it ...", "My view is ...", "I could be mistaken, but ..." are likely to stimulate the critical thinking one hopes to provoke.

The physical surroundings may also be intimidating and only in recent years has any attempt been made, even in the building of new universities, to construct lecture rooms with a neutral or informal atmosphere. A sense of occasion can be created without the massive architectural effects that speak of authority. The rigid and formal separation of lecturer and students sets them physically against each other. The new law school in Sydney has a lecture room constructed so that the students' seats can swivel and be organised in a series of loose ellipses if desired. An imposing lecture bench or podium similarly adds authority to the lecturer. If the acoustics permit and it is not necessary to spend a lot of time writing on boards or

manipulating equipment than many lecturers like to come out from behind the bench.

Why not explore the architecture and furnishing of the room you are to use? It may be more flexible than at first appears, and especially with a smallish class it may be possible by, for example, bringing a smallish reading desk or a small dais forward towards the audience, to loosen the atmosphere and create more contact with the audience and yet to observe the important rule 'see and be seen'.

4. GENERATING A RESPONSE

We have come across only one don who expressed what seemed to be genuine disinterest in whether or not his students contributed to his lectures. We mean this in the sense that if a lecture is designed to inform the students, to interest them and to increase their understanding of a subject, then their reception of it and response to it are part of the lecture; a lecture only exists 'live'. (There is a review of research into the lecture method in "Why Lecture?" and a discussion of how realistic these aims are.)

Some lecturers instinctively address an audience directly, talking casually to them while introducing a subject, preparing a demonstration or expanding the explanation of a point. They only use plain, disciplined and deliberate speech when they switch to exposition. (Remember that there may be advantages in using familiar examples, colloquial speech forms and commonsense explanations as bridges between students and

the subject matter of a lecture.)

Some lecturers believe that they may engage students by showing their personal pleasure in the elegant solution of a problem or in their favourite authors. Their intention is to involve the students at second hand, being themselves the bridge that makes the subject accessible. Others use film, tapes or television to create the same vicarious involvement, confident that intellectual response is heightened when imaginations or emotions are stirred. Thus a lecturer in French Studies sings work songs in a lecture on the Popular Front; in part this is material to the lecture; in part it creates a receptive mood.(2)

A more down-to-earth lecturer can try to awaken simple curiosity as a prelude to deeper interest. An introductory lecture in phonetics begins with a recording of synthetic speech.(19) A professor used to lecturing on the history of the lesser Slav peoples adopted shock tactics of a different kind deliberately to arouse interest. '"The brain of the Czechs does not understand reason, but it understands blows"', he began. The students did not receive this passively. The subsequent revelation that this was a quotation and that it came from Mommsen, the 19th century historian of Rome, must surely have generated active interest in the history of German-Czechoslovakian relations. (This was countered, of course, by an account of the German Social Democrats who resisted Henlein.)(2)

Lastly, students can be actively involved in a lecture by the lecturer who asks questions, allows breaks for

discussion, sets quizzes during a lecture or hands out questionnaires at the end which may furnish data for a subsequent lecture. An example is given by the phonetician referred to above who asked students to fill in questionnaires about their own speech patterns. Another example is given by a professor of engineering who asks round the class for numerical answers as he works out a problem during a lecture.[28] All the answers are written up and by the time there are half a dozen different ones typical errors are being thrown up and can be discussed in order to arrive at a correct answer that the class accepts. If the lecturer works out problems on the board, or using an overhead projector, without getting the students to take part he can make some effort to space out his working so that students have a chance to arrive at the answers to each step ahead of him. They experience immediate confirmation or correction, both of which aid learning.[29]

It is sometimes possible to provoke an active response to what you say by tricks of speech. Thus questions, rhetorical as well as direct, are followed by pauses; sentences which end with a critical or challenging phrase may evoke covert contradictions; mid-sentence pauses invite students to finish the sentence for themselves. Whenever you try out approaches that are unfamiliar to your students have a care for their appropriateness. Postgraduate students may resent being 'chatted up'; honours classes may find what they come to see as gimmicky tactics time-wasting. "If he has a point to make, why doesn't he make it?" Know what the options are and then make your judgment as to where the best margin of benefit is to be found.

PART IV
TWO-WAY COMMUNICATION

So far we have presented the lecture entirely from the lecturer's viewpoint. But a lecture is a live performance, and the students' response is part of it. We have assumed throughout that lecturers have a care for the relevance of their material, not just to the syllabus and the theme of the lecture but to the students themselves. In Part III we began to look at the setting of a lecture and to the kind of atmosphere that is conducive to learning; students are readier to respond if they do not feel unduly tense. Part III ended with a few suggestions for generating responses to the content of the lecture.

Now we switch, for the first time, to looking at the students directly. They must not be ignored; they should to some extent shape a lecture. While a lecture is originally put together with some thought for the students' levels of response, the pattern of knowledge and ability in the audience does not necessarily repeat itself from year to year so the success of a lecture must depend ultimately on the lecturer's ability to respond to small signals indicating lack of knowledge or an inability to follow what is being said.(28) Whether there is readable feedback during the lecture may in turn depend on how successful the lecturer is in

loosening up his audience and establishing a sense of community with them. Feedback is essential, too, because without it you may leave them bogged down in their notes.

Active two-way communication is necessary. For the lecturer's part how he addresses the students is important; the responsibility for creating a sense of community is his. The students' part is not so easily defined. Each lecture has its own audience. How do they behave? How do they communicate with the lecturer? We begin with "What the students are actually doing" and then separately consider "A sense of community" - there is more to it than good intentions and a few friendly remarks - "The lecture as a performance" and "How to assess one's own performance".

Finally, we return to the question of what has been absorbed as well as how easy it was to swallow. "Tests of success" is the title of Part V.

1. WHAT THE STUDENTS ARE ACTUALLY DOING

Since this is a lecture they are probably sitting in attentive postures. (The overt behaviour of individuals is conditioned by the presence of a large group of others and by the exigencies of the occasion.) They may be taking micro-sleeps.[30] (Here is another pointer to the need for repetition, summarising and clear structuring of material. It is easier to locate yourself on waking up in a train if you know the names of the intermediate stations!) They may be taking notes, or appearing to take notes. Note-taking is a traditional activity that

the conscientious student finds hard to give up. Besides, it gives him the illusion of purposeful activity even when it is not. However, some students object to taking notes - "I didn't come here to learn to be a tape-recorder". They think it prevents them from listening properly and from understanding what is said.(1) There has been a lot of interest in students' note-taking. Hartley and Marshall(31) give a review of research and we discuss this in "Why Lecture?" along with the use of handouts.

2. A SENSE OF COMMUNITY

There are two participants in a lecture; the lecturer and the audience. What gives them a sense of community? First of all they share an interest in the subject so the lecturer lets his interest show: the take-it-or-leave-it approach can be overdone.(32) Then they share a general friendliness, or at least a lack of positive ill-will towards each other! It should never be assumed that an audience is hostile; the lecturer addresses them openly and straightforwardly as friends.

Lecturers sometimes behave defensively - being abrupt or rigorously academic. It is not always easy to get up and address a large number of students. Some new lecturers symbolically withdraw from the whole uncomfortable business - addressing the walls, speaking quickly and unemphatically. The only cure is to concentrate on the audience. Lecturers <u>are</u> exposed and they are being weighed up personally as well as professionally but straightforwardness provokes more sympathy than impersonality. As a new lecturer you may be paid more attention but that is to your benefit; it will help

you to get your material across to them. Look back at them; you are all in it together, as it were!

This is all that the lecturer has to begin with; if the sense of community is to be strengthened there must be continued mutual attentiveness and it is the lecturer who must generate it. A friendly and accepting attitude on your part is likely to produce a friendly and receptive one on theirs. The lecturer who accepts this will take some trouble to establish the degree of informality that seems proper to him. His attitude will not differ very much from his behaviour with students in, for example, tutorials or committees. They know where they are with him. His manner is direct and friendly. He looks for response and may find instead that, as an audience, his students seem to have become impersonal; overtly attentive but impassive.

Each student, of course, feels a certain immunity from attention and they are right; a lecturer cannot address them all as individuals; the directness of his address is modified. Similarly their personal reactions to what he says and does will often be played down; they are subordinated to being part of the audience. For example, no student will feel the same responsibility to smile at a joke that he accepts in a one-to-one situation, but if the rest of the audience laughs then he will too.(33) Sometimes audience response depends on there being one or two students present who are prepared to laugh, or to answer questions or to respond openly in other ways.(28) It catches on.

How then is the lecturer to assess the impact of what he says? In time most lecturers become competent at interpreting the audience's visible reactions. One useful gauge is the interest they show in you. Do they look at you, meet your eyes or avoid them? Do they smile at your occasional sallies? And how fast do they react? This reflects their speed of comprehension and level of arousal or interest.

Then you can ask direct questions. Always remember that questioning is a threatening action. This works in two ways in a lecture. You may keep the students in a state of greater arousal for if you are likely to question them directly they will generally be alive to the possibility. But the threat is greater in a large group. General questions will get little response. Specific questions should aim at producing minimal stress so ask those that least imply the likelihood of being wrong. Ask questions that require personal opinion, personal reactions. And reward responsiveness by the way in which you receive it.

Positive answers to questions like "Did you find X convincing?" allow you to ask "Why?". The explanation may give you a guide to what is getting across. The students' responses would ideally be used, and seen to be used, in what you say next and in later references to points they raise. Feedback to the students in this way is important and so is your attitude. Humour with a bite may keep people awake, but punitive responses, those that are dismissive or belittling, will 'turn students off'. Both the tone you use in delivering your lecture and that in which you answer questions should be

given some thought. It should never be either dismissive or disinterested. The courteous handling of a completely wrong answer calls for all one's skill, though ask yourself how you came to ask a question eliciting such an answer!

Students are commonly given freedom to interrupt. Your attitude will determine how much they exercise this right. A new lecturer might be ill-advised to encourage his audience to comment and question at will. If you do not handle diversionary questions skilfully the coherence of your presentation may be destroyed. You should make it clear beforehand that while you will welcome an occasional question, and intend to ask some, you do not wish to give much time to ad hoc discussion within the lecture. Go on to say whether you intend to relate the lecture to small group discussions or explain that you are going to give out study questions at the end of the lecture, or mean to give 10 minutes in the middle of the lecture to letting them mull over a problem the answer to which is the key to the second half of what you are expounding. Students will support this - marginally more of them think questions should be allowed rather than encouraged.(1)

Watching them, listening to the way they answer your questions you will readily appreciate that the more one knows about individuals in the audience the easier it becomes to make sense out of their responses. You will have some understanding of what it is like to be in their place. And this is the point we emphasise - try to be aware, continuously if possible but otherwise by repeatedly reminding yourself, of what it is like to be in their place. This is how to develop sensitivity

towards your audience.

Meanwhile they are finding out about you. Do you have strong feelings about certain aspects of your subject? They will pick this up. The university teacher will not hesitate, within reasonable limits, to be individual, even idiosyncratic, if that suits the occasion. There are limits; polemics and propaganda for example are not appropriate, and any serious divergence from accepted lines of thought should be declared. Draw the students' attention to any bizarre judgments or bias in the selection of material that results. They have a right to appraise unconventional approaches for themselves. Do you dislike lecturing because you object to lectures on principle? The lecturer who thinks that lectures are impersonal, tedious and a waste of time because students do not listen to them may well be one whose lectures become more tedious and least attended; they share the same expectations.

3. THE LECTURE AS A PERFORMANCE

A lecture is in a sense a performance because it is all a little larger than life. A lecturer has to allow for the change of scale. Clearly, he has to speak up and make his gestures a little larger and a little slower; lecturers who watch their audiences closely begin to do this instinctively. There is often an "essential assymetry of perception"(34) between student and teacher and this may be magnified during a lecture. The lecturer will hope to maintain the sort of bond he usually has with his students; the concept of 'psychological distance' is a useful one. Psychological

distance means the bounds set on approachability. How approachable are you outside the lecture room? You may seem more distant within; if so you reduce the distance a little. Make deliberate allusions to field trips you have shared, films they enjoyed. Make a point of looking at people. In a comfortable conversation people usually make frequent brief eye contacts and repeatedly look away so in a lecture room the lecturer frequently looks about the lecture room, meeting students' eyes briefly from time to time, not with sliding glances but directly.(35) The roving eye is an advantage! But do not fix on one friendly face. The Ancient Mariner might have been a compulsive teacher but universities cannot afford 1:1 ratios!

It is all to do with rapport but the thought that this is in some ways a performance may increase the anticipatory nervousness many lecturers feel. This is a commonplace and no augury of a poor performance. First-rate lecturers like T.H. Huxley, Bragg and Agassiz all report how habitually strung up they were before giving a lecture and how exhausted afterwards.

Since parallels with the theatre are being cited and often are (audience, lecture theatre, "When are you performing?" "How was it received?") it is sometimes assumed that the lecturer with a talent for the theatrical has unfair advantages. Not so. Allow for the change of scale, reinforce your usual bonds with the students and practise the skills of exposition and the advantages are yours. In certain cases such talents, properly subordinated to educational objectives, may be of help to the lecturer: they can also be a crutch for the idle and a

disguise for an inadequate lecture. Take the case of "Dr. Fox".

"Dr. Fox" was an actor who rehearsed and delivered a lecture to audiences of experienced educators on a manufactured topic by no means beyond the reach of their professional judgment. The lecture deliberately contained an excessive amount of double talk, neologisms, non-sequiturs and contradictory statements but it was delivered with warmth, panache, enthusiasm, humour - and meaningless references to unrelated topics. It went down well and over half were seduced; "Dr. Fox" was congratulated, one member of an audience even recalled "Dr. Fox's" non-existent publications![36] Histrionic skill can be counter-productive. The gifted should rein themselves in and beware of careering after Foxes!

Let us end with another warning. For some few new lecturers the occasion may be awesome less as a first performance than as some kind of investiture in a temple of learning, or initiation into a society. Vestments may be bygones but vaulted ceilings are still found in many lecture rooms, with a high altar of dogmatic instruction that the laity may not approach and behind which it is gratifying to assume the authority of the priesthood. This is no longer held to be appropriate. Students may enjoy such a ritual but enthroned authority <u>can</u> be intimidating and intimidation may well impede learning!

4. HOW TO ASSESS ONE'S OWN PERFORMANCE

Assessment of your own success as a lecturer too often

boils down to an analysis of performance and communication skills. These are nevertheless, as we have seen, important. The techniques that are presently used to analyse a lecture involve recording it, or part of it, for scrutiny. A lecturer can do this for himself and judge what comes out for himself. His evaluation is likely to be unfair, the strongest tendency may be to be over-critical, and to concentrate on things that are not considered important by students or colleagues.

If you tape-record a lecture for yourself then bear in mind what may have been lost through having no visual record and note, too, that judgment of such factors as pace and audibility may be false if the tape is played back in a room whose acoustics are not those of the auditorium in which the lecture was given.(26)

It is usually better to enlist the help of those who will be both more sympathetic and more objective. Try getting a media services television unit to drop in on one of your lectures unannounced. You will be able to view the video-tape on your own. Perhaps look at it yourself first and then with the help of a self-evaluation questionnaire. Then get someone to look at it with you. (A close colleague is not necessarily the best person.) If you ever have the opportunity to attend a 'clinic' or training course where micro-teaching techniques, video-taping model lectures and any other self-confrontation techniques are used, the professional rewards are likely to be even higher.(37)

In order to analyse delivery and presentation the clinic session can be of short duration - a 10 or 15 minute

recording is enough to demonstrate your style and one can analyse it either with a consultant or against a check-list. (If you and your colleagues wish to use one or a group of lectures for a special purpose it may be possible to have a video-taped run through so that you can go over the whole lecture point by point.) Once you are past the initial shock of discovering how large the gap is between how you imagined your lectures cameover and how they appear to you now, you will find that you have faults that can be corrected and that your natural style is perhaps better suited to one way of presenting your material than to another.

PART V
TESTS OF SUCCESS

Here now are some of the ways of measuring the success of a lecture.

* The students' response; the feel of the lecture and the questions they ask.
* What comes out in associated small group work.
* How well colleagues think a subject has been learned.
* Occasional tests can be handed out that relate to specific lectures. They can be handed back anonymously. These can be self-tests for which answers are available so that students can check their grasp of a subject for themselves.(38)
* Course work assignments and examination answers may give some indication that lecture material has been mastered but there is no way of knowing what has been learned through, for instance, private study, nor where misconceptions have been picked up.
* Occasional questionnaires can be given out asking students to evaluate the lecture. This can be a useful guide and is not a procedure that is abused by students in the way that is sometimes feared.(39)
* Ask students to construct such a questionnaire some day. Here would be a guide to their expectations.(28)
* Fill in the questionnaire on your own performance before giving it to the students! Then try developing an analysis of your lecture from the points where you and the students give different answers.

SUGGESTIONS FOR FURTHER READING

This is a guide to further reading. Though many of the works referred to here were major sources for this booklet, and we hope we have given them due acknowledgement, we have in no way exhausted what they have to say.

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The standard work - thorough, comprehensive, easy to read and practical: BLIGH, D.A. (1972) *What's the Use of Lectures?* Harmondsworth: Penguin.

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Chapter 7 includes a good discussion of the parameters of teaching style, and an appraisal of current methods of training teachers in higher education including video-taping of performance and micro-teaching techniques.

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